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AUTHOR House, Willia C.
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ABSTRACT

An experiment was conducted to investigate the effects of time perspective on performance expectancies and the subjective evaluation of outcomes in regard to a task at which subjects had previously succeeded or failed. Subjects first succeeded or failed on either an easy or difficult task. They then stated performance expectancies and made evaluations of the affect associated with success and failure in regard to performing the task again immediately, in three weeks, or in twenty-one weeks. Results indicated a significant decrease over time for both the satisfaction associated with passing and the dissatisfaction associated with failure. Performance expectancies were significantly higher for the testing period of twenty-one weeks in the future than for either the immediate or three weeks testing period, but this difference was evidenced only for subjects who initially passed the test. (Author)

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Effects of time perspective on expectancy and subjective evaluation of success and failure

William C. House

Case Western Reserve University

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Effects of Time Perspective on Expectancy and Subjective Evaluation of Success and Failure

William C. House
Case Western Reserve University

ABSTRACT

An experiment was conducted to investigate the effects of time perspective on performance expectancies and the subjective evaluation of outcomes in regard to a task at which subjects had previously succeeded or failed. Prior research has produced conflicting findings on the subjective evaluation of positive and negative outcomes, but some of the research has dealt with tangible rewards and punishments while other work has been concerned with performance outcomes involving tasks with which subjects were unfamiliar. In the current study subjects first succeeded or failed on either an easy or difficult task. They then stated performance expectancies and made evaluations of the affect associated with success and failure in regard to performing the task again immediately, in 3 weeks, or in 21 weeks. Results indicated a significant decrease over time for both the satisfaction associated with passing and the dissatisfaction associated with failure. Performance expectancies were significantly higher for the testing period of 21 weeks in the future than for either the immediate or 3-weeks testing period, but this difference was evidenced only for subjects who initially passed the test.

Effects of Time Perspective on Expectancy and Subjective Evaluation of Success and Failure[1,2]

William C. House
Case Western Reserve University

As indicated by Mischel, Grusec, and Masters (1969), interest in the subjective experience of time is not a recent development (see reviews by Fraisse, 1963; Wallace and Rabin, 1960); but relatively few studies have investigated the anticipated temporal delays that individuals expect before the occurrence of outcomes. Mischel et al. responded to the lack of information concerning how temporal expectations influence human preferences for future rewards and punishments by conducting a series of four studies on the relationship between expected delay time and the subjective value of rewards and punishments. Their results strongly supported the hypothesis that as the anticipated delay interval for the attainment of a reward increases, the subjective value of the reward decreases. This relationship appeared to be a linear one—the greater the length of anticipated delay the lower the subjective value of the reward. Regarding punishments, adults rated immediate punishments as generally less aversive than delayed ones of the same intensity, irrespective of particular delay lengths (1 day, 1 week, or 3 weeks). Thus, the amount of temporal delay did not significantly influence reactions to the anticipated punishment.

In a more recent study Nisan (1972) investigated the effects of temporal distance on expectancy for success and on the valence of success and failure in regard to task performance for which the outcome was dependent on the individual. Regarding expectancy for success, the results indicated that people tend to estimate their chances for success (expectancy) in a future task as higher than their chances in a task to be performed in

the "present." In contrast to the results obtained by Mischel et al. the findings revealed a consistent but not significant trend in the direction of higher valence associated with success in a future, as compared to an immediate test, with no significant differences in valence associated with failure for a future as compared to an immediate task.

Integration of the findings of the studies by Nisan and Mischel et al. is made difficult due to considerable methodological differences between these studies. Primary among these differences is the fact that Mischel et al. were interested in the subjective values associated with tangible, physical rewards and punishments, e.g., money, reading lamps, and electric shocks, while Nisan was dealing with the valence associated with success and failure on a task. Although the valence of success and failure would seem to be closely related to the subjective value assigned to rewards and punishments, it may be that these two types of consequences are not analagous.

In addition to these methodological differences, there are considerations which limit the generalization of Nisan's findings regarding time perspective and its relation to valence of success and failure and performance expectancy. Specifically, in Nisan's experiment subjects had not performed the test when they reported their future performance expectancies and their evaluations of the valence of future performance outcomes. Nisan concluded that people have higher expectancies for success for skill tasks that are to be taken after a lapse of time than for tasks to be taken immediately. However, it would seem reasonable to question the generalization of this conclusion as it pertains to future performance on a task at which the subject has previously performed and failed. Failing at a task could well serve to convince a subject that the task was too difficult for him, and such a conviction could mitigate any increase in future performance expectancy. Also, in regards to valence of

outcome, if a task were initially performed successfully, future failure at the task could reasonably be expected to be more aversive than future failure at a task which has been previously failed, particularly if the previously failed task were a very difficult one which the subject could perceive as being beyond his capability to pass. More generally, the relationship between time perspective and both performance expectancy and valence of outcomes may be quite different in a situation in which the subject has already performed the task and has succeeded or failed than in a situation in which the subject has not yet performed the task.

The current investigation was designed to further investigate the issue of time perspective as it relates to performance expectancy and the subjective evaluation of outcomes associated with task performance. The present experiment considerably extended the study of the issues in question by creating an experimental situation in which both task difficulty (easy or difficult) and performance outcome (pass or fail) were experimentally varied. Thus, subjects either passed or failed a difficult or easy task prior to indicating their future performance expectancies and their evaluations of the valence of future success and failure on the task. In addition, the current research extended the time perspective to a period of 4 months, whereas in the previous studies by Nisan and by Mischel et al., 4 weeks had been the longest time perspective considered. In studying the effects of time perspective, it would seem necessary to investigate the effect of periods of time in excess of 3 or 4 weeks, since individuals often plan and/or anticipate their activities farther in advance than these relatively short intervals.

Specifically, the current study was designed to answer the following questions: (1) How will successful or unsuccessful performance on easy and difficult tasks affect subjects perceptions of the valence of success and failure on the tasks in the immediate and distant future? (2) Following

success or failure on easy or difficult tasks will expectancies for future performance on the tasks increase as did expectancies in Nisan's study in which subjects did not perform the task prior to reporting expectancies?

METHOD

Subjects and Procedure

Subjects were 107 male and female undergraduate psychology students at Case Western Reserve University. Subjects were randomly assigned to groups whose size averaged about 25.

In order to experimentally manipulate success and failure at both an easy and difficult task, anagrams were chosen as the experimental task. Two 20-item anagrams lists were constructed. The difficult list consisted of 15 very difficult items and 5 easier items, while the easy list consisted of 16 very easy items and 4 very difficult items.

In order to experimentally create groups of subjects who passed and failed the difficult and easy tasks, different criteria for success were announced to different groups of subjects. Thus, the group designated to consist of subjects who passed the difficult task (difficult-pass group) was told that the items in the test were extremely difficult and consisted of items which, in previous testing, had been solved within 30 seconds by about 10% of the college students who had attempted the items. These subjects were told that to pass the current anagrams test they needed to solve 4 of the anagrams correctly. A second group (difficult-failure group) was designated to fail the difficult task. These subjects were given the same information about the difficulty of the items, but were told that they needed to solve 10 anagrams to pass the test. Since the difficult list contained 5 easy anagrams, with the remaining anagrams solvable but extremely difficult, it was felt that requiring 4 correctly solved anagrams as a criterion for passing the test would allow nearly all of the subjects in the difficult-pass group to pass the test. At the same time, requiring 10 correct solutions was felt to

insure failure on the part of nearly all subjects in the difficult-fail group. By altering the pass-fail cutoff levels in an analagous manner, additional groups of subjects were designated to pass and fail the easy task.

The anagrams task was described as being heavily dependent on intelligence and cognitive abilities. Subjects were also told that research has shown that fairly extensive practice had a relatively minimal effect on people's ability to solve anagrams because the intellectual and cognitive factors involved are relatively stable. Subjects were given this information in an attempt to mitigate the possibility that they would intend to practice the task between the experimental session and the future testing times. Such intended practice, if perceived as leading to significant performance improvements, could conceivably lead to generally higher expectancies across all subjects for tasks to be taken in the future. The possibility that future expectancies would be significantly altered by subjects' intent to practice the task was actually considered to be quite minimal, and Nisan seemed to have convincingly demonstrated that "practice effects" were not responsible for his findings regarding higher expectancies for future than for present performance. Nevertheless, it was considered worthwhile to make an effort to reduce any possibility of practice effects.

Following Feather (1969) each anagram was printed on a separate page of a booklet, and the order of anagrams was randomized within each booklet. Subjects had 30 seconds to solve each anagram but were not allowed to go on to the next item until 30 seconds had elapsed.

Following performance, subjects were asked to count and then to write down the number of anagrams they had solved. This was intended to insure that subjects were aware of whether they passed or failed. Subjects also rated the difficulty of the task on an 11-point scale scored in the direction of increasing difficulty.

Subjects were then informed that they would be asked to take a second anagrams test consisting of different items but of the same difficulty level and with the same number of anagrams required for passing. They were told that they would be asked to take the second test either immediately or else in 3 weeks. They were informed that those who would take the second test in 3 weeks would be able to do so during the final minutes of a regular class period. No information was given to subjects concerning which of the two times they would actually take the second test.

Subjects then filled out rating scales. There were three sets of identical rating scales with each set pertaining to a different time of administration of the second test. As in Nisan's experiment the ratings were made on 11-point scales on which subjects were asked to indicate their degree of satisfaction if they were to pass the test and their degree of dissatisfaction if they were to fail. Subjects were also asked to rate the importance of passing the test at each of the testing occasions. It was felt that the rating of importance of passing, while highly similar to the rating of satisfaction associated with passing, might nevertheless be worthwhile data to collect, as subjects could possibly perceive a difference between actual satisfaction associated with passing and the importance of passing. The ratings constituted three dependent measures and were scored in the direction of increasing satisfaction, dissatisfaction, and importance. A fourth dependent measure was performance expectancy, which was the subjects' expected number of correctly solved anagrams at each of the testing times.

For the first set of three ratings and the corresponding expectancy, subjects were asked to assume that they all would be taking the second anagrams test immediately at the end of the experimental session. For the second set of ratings and the expectancy statement, subjects were asked to assume that they would all be taking the second anagrams test in three

weeks, rather than immediately. For a third set of ratings and a corresponding expectancy statement, subjects were asked to assume they would be taking the second test 4½ months later. More specifically, they were asked to imagine that they would not be taking the second anagrams test until the beginning of the next fall semester, which was 21 weeks in the future. It should be noted that subjects were aware that they would not actually be taking a test at this distant time, and this constituted a methodological difference in the conditions under which both the immediate and 3-weeks data were collected, as compared to the conditions under which the 21-week data were collected. One factor which mitigates this discrepancy somewhat is that when subjects gave their ratings for the immediate and 3-weeks testing times they did not actually know which of these times they would be taking the second test. They did, however, think they would be taking a second test on one of these occasions. It was felt that the potential gain from obtaining some preliminary information concerning time perspectives considerably longer than those previously investigated, as regards expectancies and the subjective evaluation of outcomes, outweighed the limitations posed by the inconsistencies mentioned above. In addition, since the 21-weeks testing data was collected last, it could not influence any of the data involving the immediate and 3-weeks testing periods, which could be compared separately.

In order to maintain the credibility of the experiment until its completion, some subjects were retained in order to take another anagrams test, while others left under the assumption that they would be taking the test in 3 weeks. Debriefing occurred following completion of the experiment.

RESULTS

Manipulation Check

The difficulty levels of the anagrams and the passing levels of performance which were announced to subjects appeared to be extremely effective in creating groups who passed and failed the easy and difficult tasks. The data from two subjects who received the difficult task were eliminated: one subject in the "pass" group did not solve the four anagrams necessary for passing, and one subject in the "fail" group reached the necessary criterion for passing. The ratings of task difficulty indicated that subjects perceived the easy list of anagrams as being significantly less difficult than the difficult list (t=10.73, df=103, $p < .0001$).

Ratings of Satisfaction, Dissatisfaction, and Importance

The means for satisfaction associated with passing, dissatisfaction associated with failure and importance attributed to passing in relation to time perspective for subjects who passed and failed the easy and difficult tasks are depicted in Figures 1, 2, and 3 respectively. A 2(Outcome-pass or fail) X 2(Task difficulty-easy or difficult) X 3(Time perspective-immediate, 3 weeks, 21 weeks) unweighted means analysis of variance with repeated measures was carried out using each of these three dependent measures. In each of these analyses the only effect to reach statistical significance was the main effect of time perspective (satisfaction associated with passing, F=10.33, df=2,202, $p < .0005$); dissatisfaction associated with failure, F=8.62, df=2,202, $p < .0005$; importance attributed to passing, F=4.74, df=2,202, $p < .01$). Thus, there were significant tendencies to decrease over time for the affect associated with both passing and failing as well as for the rated importance of passing.

Insert Figures 1, 2, and 3 about here

In the analysis of dissatisfaction with failure the Difficulty X Time perspective interaction approached significance ($F=2.68$, $df=2,202$, $p < .10$), as did the Outcome X Difficulty X Time perspective interaction ($F=2.89$, $df=2,202$, $p < .10$) in the analysis of satisfaction with success.

To further illuminate these decreases in rated affect and importance, Newman Kuels tests were performed to investigate the effects of time perspective regardless of task difficulty or performance outcome. For satisfaction associated with passing, the rated satisfaction with passing was significantly less for a test to be taken in 3 weeks than for a test to be taken immediately ($p < .01$), and was also less for a test to be taken in 21 weeks as compared to one to be taken immediately ($p < .01$). The decrease in rated satisfaction of passing for a test to be taken in 21 weeks as compared to 3 weeks narrowly missed the standard level of significance ($p < .06$).

The Newman Kuels results were similar for the rated dissatisfaction associated with failure. The dissatisfaction with failure was rated as less for a task to be taken in 3 weeks than for an immediate task ($p < .01$) and less for a task in 21 weeks than for an immediate task ($p < .01$), with no significant differences between tasks to be taken in 3 weeks as compared to 21 weeks.

For the rated importance of passing a test, less importance was attributed to a task to be taken in 3 weeks as compared to one to be taken immediately ($p < .05$), and less importance was attributed to a 21-week task than to an immediate task ($p < .025$), with no significant differences in rated importance between tasks to be taken in 3 versus 21 weeks.

Expectancies

The means for performance expectancies in relation to time perspective for subjects who passed and failed both the easy and difficult tasks are presented in Figure 4. A 2(Outcome) X 2(Task difficulty) X 3(Time perspective) unweighted means analysis of variance with repeated measures was

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Insert Figure 4 about here

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performed on these data. Emerging from this analysis were a significant main effect for time perspective ($F=6.38$, $df=2,202$, $p < .005$) and a significant Outcome X Time perspective interaction ($F=5.91$, $df=2,202$, $p < .005$).

Due to the Outcome X Time perspective interaction, Newman Keuls tests were performed separately on the expectancy data for subjects who passed and for those who failed. For subjects who passed, the performance expectancies for the task 21 weeks in the future were significantly higher than for the ratings associated with taking the second anagrams test either immediately ($p < .01$) or in 3 weeks ($p < .01$), with no significant differences between the immediate and 3-week expectancies. For subjects who failed, there were no significant differences in expectancies as a function of time perspective.

DISCUSSION

The first conclusion of the study was that time perspective had an effect on subjective evaluation of success and failure and on rated importance of passing. The ratings of satisfaction associated with success, dissatisfaction associated with failure, and importance of passing were all significantly lower for a test to be taken 3 weeks in the future than for a test to be taken immediately. In most cases these decreases were maintained for an imagined testing period 21 weeks in the future, although ratings for this

latter testing period were not significantly lower than those for the 3-week testing period, with the exception of rated satisfaction with passing. The satisfaction ratings for the 21-week testing session were lower than those for the 3-weeks testing session to a degree which very narrowly missed the standard level of statistical significance ($p < .06$).

Thus, the current results pertaining to the evaluation of a positive outcome (i.e., satisfaction with success) were generally consistent with those of Mischel et al. who found that as the anticipated delay interval for the attainment of a tangible reward increases, the subjective value of the reward decreases. The current results may be contrasted to those obtained by Nisan who found a tendency among success-oriented subjects for higher valences of success to be associated with a task to be taken in the future as compared to a task to be taken immediately and no differences in valence of success for immediate and future tasks among failure-oriented subjects.

The conflicting results of the current study as contrasted to those of Mischel et al. and Nisan must be considered in light of the primary differences among these three studies. Mischel was dealing with tangible rewards and punishments such as money and electric shocks, while Nisan dealt with subjects' evaluations of success on a task which they had not yet performed, with the precise nature of the task purposely made vague. The current study was similar to that of Nisan in that both involved evaluations of success or failure on a task, but in the current study subjects first performed a task prior to making evaluations of immediate or future success or failure in another task which was identical except for item content.

In attempting to integrate the findings of the three studies regarding the effect of time perspective on the evaluation of positive outcomes, it

would appear reasonable to tentatively conclude that in situations involving either tangible, physical rewards, or performance on a task at which a subject has already performed and either succeeded or failed, the subjective evaluation of positive outcomes (rewards or success) decreases as the anticipated delay interval for the attainment of that outcome increases. There is no evidence for this relationship in the case of the subjective evaluation of the outcome of a novel task. On the contrary, in the situation involving the subjective evaluation of the outcome of a novel task, there is some suggestion of a trend in the direction of higher subjective evaluation of success in a future rather than in an immediate task. In regard to this latter finding Nisan reasoned that "...temporal distance brings about a heightened sense of control, which results in higher evaluation of success in all types of tasks (1972, p. 181)." The results of the current study indicate that this reasoning does not pertain to situations in which the future task is highly similar to one already passed or failed.

It is more difficult to formulate meaningful, integrative speculations from the current study and those of Mischel et al. and Nisan in regard to the effect of time perspective on the subjective evaluation of negative outcomes. Mischel, et al., using tangible, physical punishments, found that delayed punishments are more aversive than the same punishments received immediately. Nisan obtained subjective evaluations of failing a novel task and found no significant differences in subjective evaluation of immediate as compared to future failure. In the current experiment the subjective evaluations of failure were in regard to immediate and future performance on a task highly similar to one which had just been performed, with results indicating a significant decrease in the subjective evaluation of failure (i.e., failure became less aversive) as a function of time.

It could be speculated that the aversiveness of physical punishment, such as shock, is both qualitatively and quantitatively different from failure on a task; and therefore the effects of time perspective might reasonably be expected to differ for these two types of outcomes. It is quite possible that electric shock is aversive to a degree that far surpasses that of the aversiveness associated with failing the type of task used in the current experiment. If this is the case, then quite possibly different psychological processes may be operating in regard to the effect of time perspective on the subjective evaluation of outcomes in these two cases. Additionally, comparing the results of Nisan with those of the present experiment concerning dissatisfaction with failure would seem to suggest that the effect of time perspective on the dissatisfaction associated with failing a task may be partly dependent on whether the task in question is a novel one (as in Nisan's study) or a familiar one (as in the present study). Future research is definitely needed to clarify these issues.

The second question to which the experiment was addressed concerned the effect of time perspective on performance expectancies for a task highly similar to one recently performed. The expectancy statements Nisan obtained for a novel task indicated that people tend to estimate their chances for success in a future task as higher than their chances in a task to be performed in the present. The results of the current study seem to suggest some limiting conditions to this conclusion. In the current experiment there were no significant differences in expectancies for the test to be taken immediately as compared to the test to be taken in 3 weeks, irrespective of initial task performance. However, for subjects who initially passed the test, whether it was easy or difficult, expectancies for a similar task to be taken in 21 weeks were significantly higher than were expectancies

for a task to be taken either immediately or in 3 weeks. These differences were not found for subjects who experienced initial failure. Thus, the current results suggest that the effect of time perspective on performance expectancy may be influenced not only by whether or not subjects have initially performed a task highly similar to the task for which they report expectancies, but also by whether or not subjects are successful or not in this initial performance. In social learning theory terms (Rotter, 1954) it appears that the effect of time perspective on performance expectancies may be influenced by whether the subject is reporting a specific expectancy (an expectancy based on performance in an identical or nearly identical situation) or a generalized expectancy (an expectancy generalized from other situations). It seems quite clear that in Nisan's study subjects were reporting generalized expectancies. Nisan indicated that "...the task was defined in such general terms that the subject could not be aware of its exact nature (1972, p. 180)." On the other hand, in the current experiment every effort was made to assure subjects that the future tests would be identical to the test on which they initially performed except that the items would be different, although of the identical type and difficulty level. Thus, subjects were reporting specific expectancies.

In conclusion, it appears that when considering the effect of time perspective on the subjective evaluation of events, it is necessary to specify whether the events in question are tangible rewards or punishments, or consequences of task performance. In addition, it would appear that the effect of time perspective on performance expectancies and the evaluation of performance outcomes may differ depending on whether the subject has had prior experience with the task in question and whether this experience involved passing or failing performance. Further research would seem indicated in order to further clarify these relationships.

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Footnotes

[1]Requests for reprints should be sent to William C. House, Department of Psychology, 1901 Ford Drive, Case Western Reserve University, Cleveland Ohio, 44106.

[2]Portions of this paper were presented at the 1973 meeting of the Eastern Psychological Association, Washington, D. C.

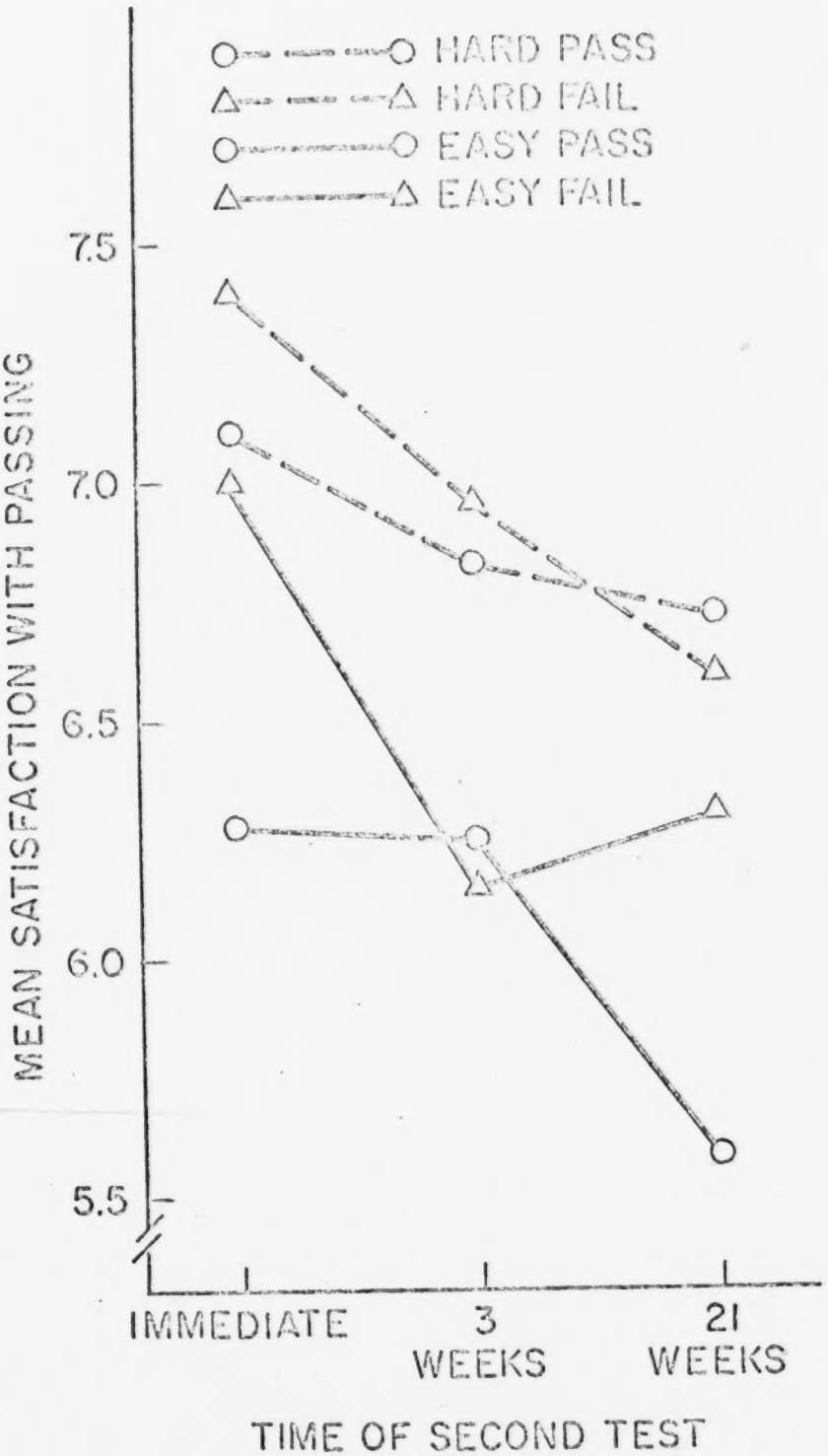
Figure Captions

Fig. 1. Mean satisfaction associated with passing in relation to time perspective for subjects who passed or failed the easy or difficult task.

Fig. 2. Mean dissatisfaction associated with failure in relation to time perspective for subjects who passed or failed the easy or difficult task.

Fig. 3. Mean importance attributed to passing in relation to time perspective for subjects who passed or failed the easy or difficult task.

Fig. 4. Mean expected performance in relation to time perspective for subjects who passed or failed the easy or difficult task.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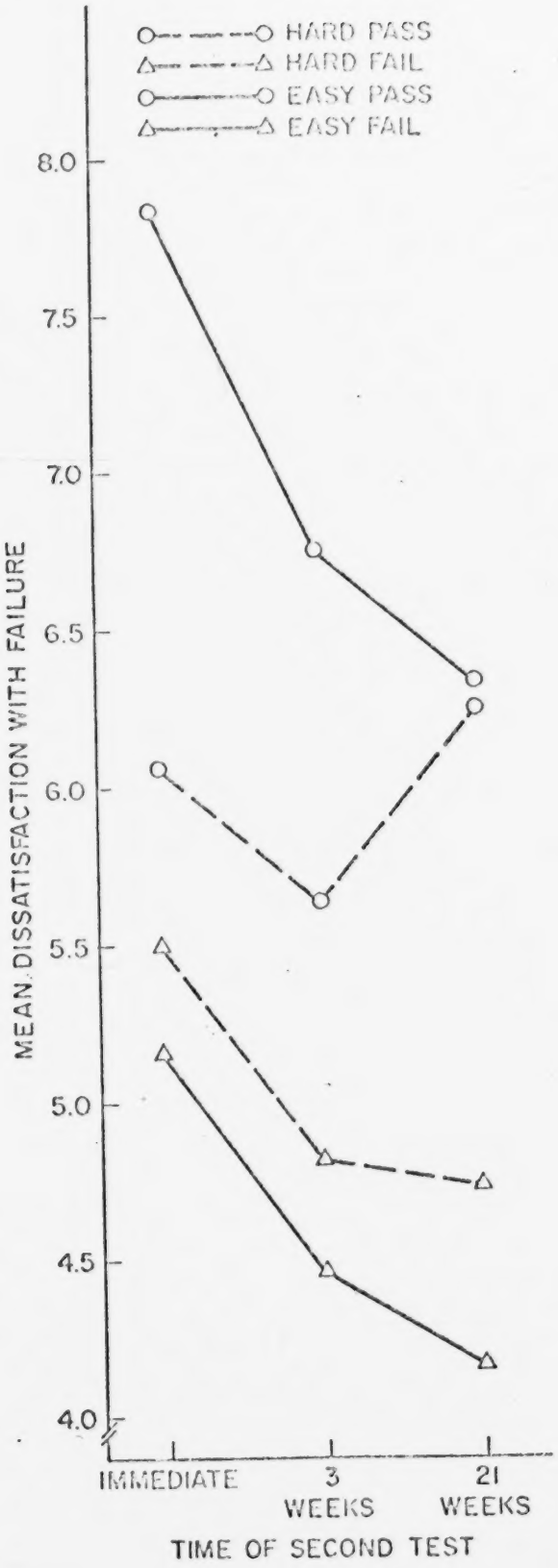
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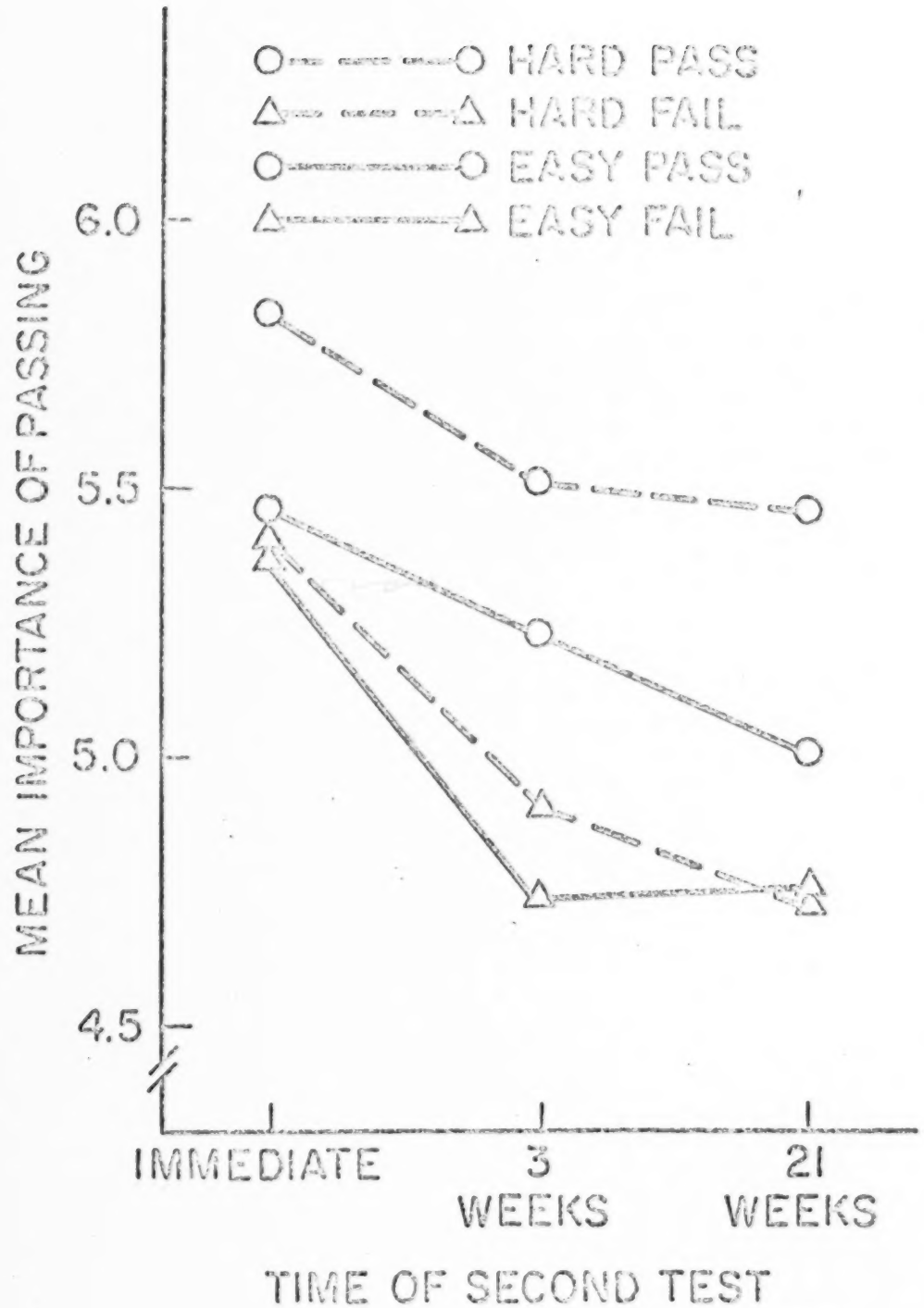
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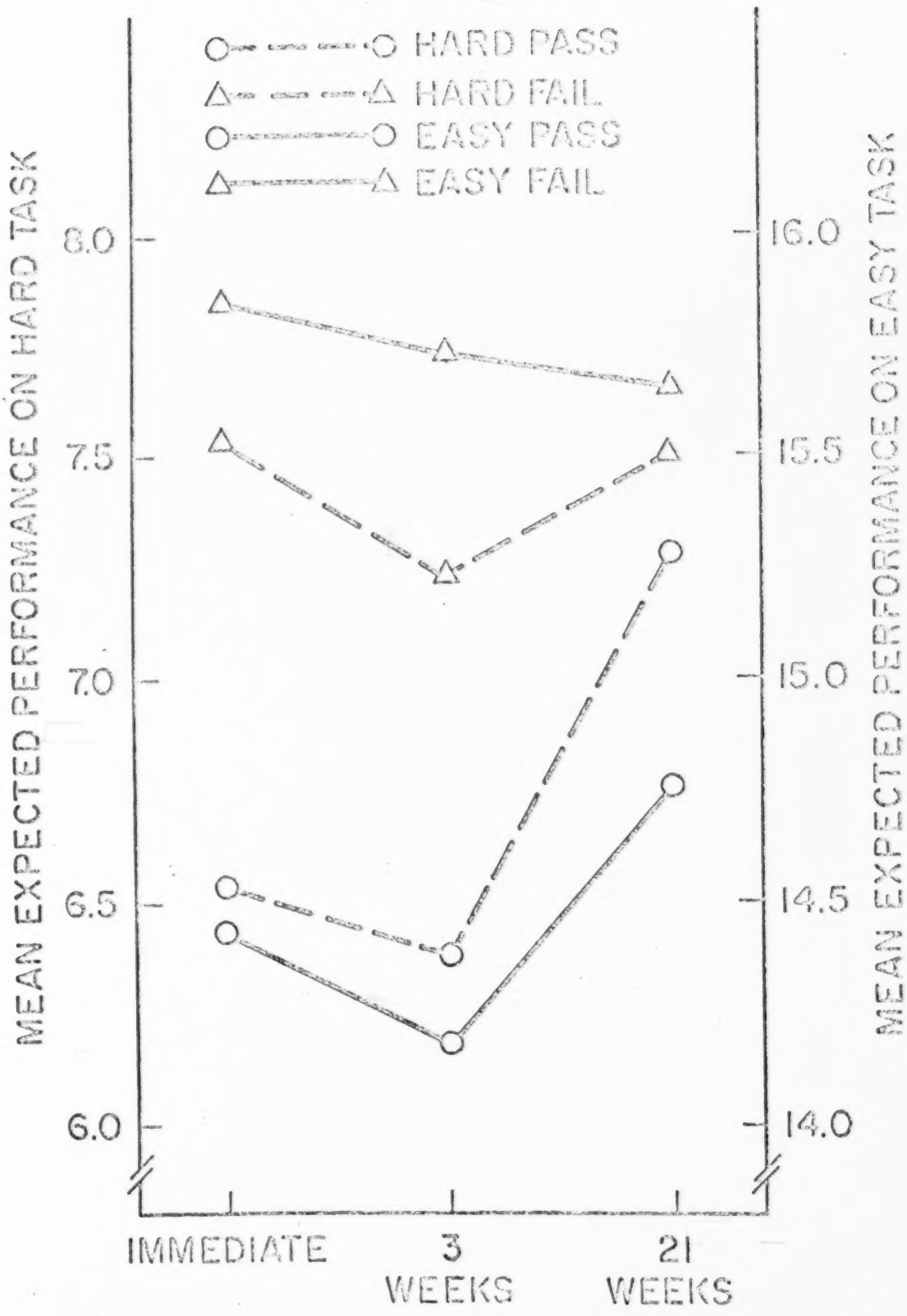
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